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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,226	09/20/2001	Vladislav Sorokine	000429	4082
23696	7590	02/08/2005	EXAMINER	
Qualcomm Incorporated Patents Department 5775 Morehouse Drive San Diego, CA 92121-1714			MUNOZ, GUILLERMO	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/961,226	SOROKINE ET AL.	
	Examiner	Art Unit	
	Guillermo Munoz	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to because amendments made to Figures 8 and 9 in proposed drawing changes (submitted January 10, 2002) are not visible. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diño et al. in view of Papasakellariou et al..

Regarding claim 1; Diño et al. disclose a apparatus for finger element assignments based on transmit power control information, note Col.2, line 66 – Col.3, line 2. Diño et al. disclose that “a measurement of the ratio of the incoming energy per symbol ( $E_s$ ) to the incident received noise power ( $I_{or}$ )” (Col.3 lines 19-22), the examiner notes Figures 2 and 7 of the instant application, both indicate similar energy measurements and are equivalent to Diño et al.’s energy measurement. Diño et al. teach performing an analysis on all channels associated with the weakest channel, note Col. 8, line 66 - Col. 9, line 5, which involves the sorting of all channels from strongest to weakest based on power control information, Fig. 6. Diño et al. teach adjusting the mobile unit fingers to receiver different channels (e.g., window, spreading code, PN offset, etc.) based on the power control information, note Col. 4, lines 1-8. Diño et al. teach re-assigning a receiver element when it is determined the element is receiving a channel that is received by at least one other channel element, note Col. 9, lines 50-53. However, Diño et al. does not explicitly state determining if noise estimations are within a certain offset of each other and taking corrective action to prevent a noise under-estimation condition.

Papasakellariou et al. teach a Spread Spectrum Time Tracking Unit which teach a CDMA time tracking technique that detects when two paths of a rake receiver are within a one chip interval of each other corrective actions are taken to prevent paths the degrading effects on the weaker path, note paragraph 0011. Papasakellariou et al. teach evaluating correlation values, energy values and decision statistics between each of the interfering paths to determine when the paths are within the chip interval, note paragraph 0014. Papasakellariou et al. teach the energy

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estimate would produce a signal-to-noise ratio too small to be useful in the weaker path relative to the stronger path when within the 1 chip interval, note paragraph 0043. Papasakellariou et al. teach avoiding the problem by making the weaker path free to be reassigned to another path, note paragraph 0043.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Diño et al.'s receiver, with Papasakellariou et al.'s teaching of avoiding the problem of a receiver element receiving a channel that is received by at least one other channel element.

Regarding claim 2, the reassigning of the weaker path is functionally equivalent to blocking the path, since it will not factor into the generated combined noise estimate of the CDMA 2000 System.

Regarding claim 3, Diño et al. do not explicitly state the "fast forward power control decision", however, the feature is equivalent to the power control method in Diño et al.'s system.

Regarding claim 4, Diño et al. further teach the claimed sorting function in Col. 8, lines 52-67.

Regarding claim 5, the claimed step of determining whether the values are sorted is inherent to sorting the values, because the assertion that values are sorted involves determining that they are sorted.

Regarding claim 6, the "dis-sorting distance" is broadly interpreted to be a step of sorting the values after an original step of sorting is performed. Diño et al. do not explicitly state re-sorting the power control values, however, Diño et al. teach the process of changing an

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assignment of a receiver element when an existing assigned finger has much lower energy than the new path detected, note Col. 9, lines 25-30.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention that the new path assignment would require a new sorting process to maintain the existing sorted status in Diño et al.'s receiver.

Regarding claim 7, the term "correction factor" is broadly interpreted to be the step of mitigating the effects of improper path assignment on the combined noise estimation of a CDMA 2000 system by re-assigning the weak path, and is thereby anticipated by Diño et al.

Regarding claim 8, see claim 3.

Regarding claim 9, see claim 4.

Regarding claim 10, see claim 5.

Regarding claim 11, see claim 6.

Regarding claim 12, see claim 1.

Regarding claim 13, see claim 2.

Regarding claim 14, see claim 3.

Regarding claim 15, see claim 4.

Regarding claim 16, see claim 5.

Regarding claim 17, see claim 6.

Regarding claim 18, see claim 7.

Regarding claim 19, see claim 3.

Regarding claim 20, see claim 4.

Regarding claim 21, see claim 5.

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Regarding claim 22, see claim 6.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Munoz whose telephone number is 571-272-3045.


The examiner can normally be reached on Monday-Friday 8:30a.m-4:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



GM  
January 18, 2005



JEAN B. CORRIELUS  
PRIMARY EXAMINER  
2/3/05